Shield

Mechanical, Electricial & Facilities Services

Q-Ton Air Source Heat pump Case Study

Experts in Providing
Specialist Services
Nationwide

SAFETY FIRST

Mitsubishi Heavy Industries Q-Ton Air-Source Heat Pumps

Beijer Ref/Mitsubishi Heavy Industries (MHI) is delighted to announce the appointment of Shield Mechanical, Electrical and Facilities Services, a division of Shield Services Group, as a nationwide Service Partner for our Mitsubishi Q-Ton Heat Pump range of products.

Shield is already working across many high-profile client sites such as the Kennington Oval cricket ground, Tottenham Hotspur FC Women and Cranfield University. Shield carries out all aspects of commissioning works and aftercare maintenance in line with the strict requirements of Mitsubishi Heavy Industries.

Reece Phillips,

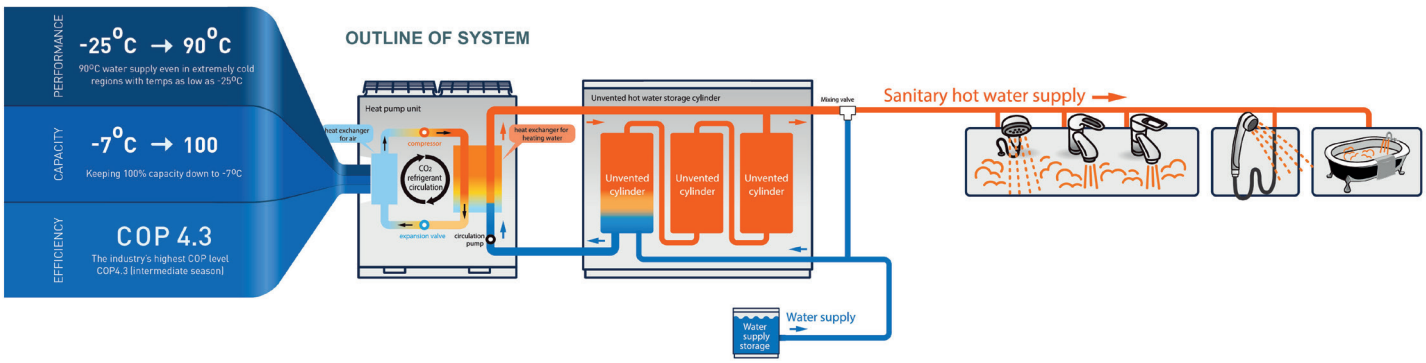
Product Specialist, Beijer Ref - Mitsubishi Heavy Industries.

The highly efficient Q-ton is an air-to-water heat pump that uses CO2 gas as a refrigerant and can be used in a variety of applications for the supply of sanitary hot water. Q-ton has been featured as the world's first two-stage compressor (combining both rotary stage one and scroll stage two technologies). It maintains high efficiency and significantly improves the performance of providing hot water at cold outside air temperatures.

The MHI team launched this innovative unique air source heat pump to allow maximum efficiency, with a minimal carbon footprint. This is all controlled from a comprehensive and easy to use touch screen panel. With the increasing pressure of the use of low GWP (Global Warming Potential) refrigerant, we believe our CO2 heat pump is the way forward to comply with future regulations as well as current market trends.

How Q-Ton Works

The Q-ton heat pump absorbs 'free' heat from the outdoor air and amplifies it to generate hot water swiftly and efficiently and it can generate hot water up to 90°C without the requirement for an additional electric immersion heater. The Q-ton heat pump uses a coil of cold refrigerant that absorbs 'free' heat from the outside air and using its unique 2-stage compressor puts the refrigerant under high pressure in order to raise its temperature. An onboard heat exchanger then uses heat from the refrigerant to generate the hot sanitary water.



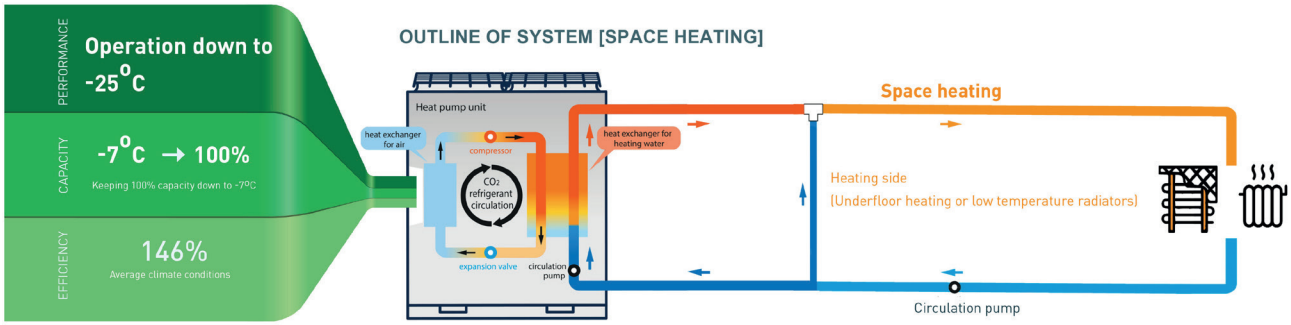
Benefits

Q-ton seeks to provide energy, cost and carbon savings. It is at it's most efficient when cold water is used to supply the heat pump, for that reason the cold water feed is provided to the heat pump, from the bottom of the stratified storage vessel.

Mitsubishi Heavy Industries Q-Ton Air-Source Heat Pumps

Q-Ton also heats space

In addition to the conventional hot water supply system, the space heating application has now been introduced in our CO2 air to water heat pump.



Benefits

Q-ton provides efficent and clean space heating with low GWP (1) natural refrigerant (R744). Thanks to the use of a natural refrigerant it becomes cleaner than any traditional type heat pump refrigerant such as R410A o R407C. Its flexibility allows for it to be installed in many heating applications and its efficient as a replacement to traditional gas and oil boilers.

Sites Serviced

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Shield offers a full spectrum service to keep your building running efficiently, performing sustainably and looking fantastic, whatever your sector. Our services include everything from the initial design stage to installation and handover. As a part of our facilities management offering, we provide planned preventative and reactive mobile and site-based mechanical and electrical engineering services, as well as small works.

Tottenham Hotspur Women's Training Facility

Cranfield University (Above). Kennington Oval (Top).